

App. No. 10/604,065
Response dated September 29, 2005
Reply to Office Action of June 29, 2005

REMARKS

Summary of Amendments

1. The specification has been amended at initiative on Applicants' behalf to correct, as a formal matter only, numerous instances of garbled text; of course no new matter has been added.¹

(The garbling of certain symbols in the present case has been found by Applicants' undersigned representative to be an artifact of the submission of the present application by means of the USPTO's Electronic Filing System. When the present application was electronically filed, versions of the specification printed out via browser display and via "ePAVE" (the USPTO's proprietary electronic submission software)—and still viewable—on Applicants' end did not then, and do not now, contain illegible text. The helpdesk at EFS has confirmed that if garbled-text-containing specifications on the EFS server are opened off-server (i.e., on another machine), then the garbled text no longer appears.)

Claims 1 through 10 were originally presented in this application. No new claims have been added and no claims have been cancelled. Claims 1 and 2 are amended. Claims 1 through 10 remaining pending.

Claim 1 has been amended to recite "said porosity being 0.1% or more." The amendment is supported by original claim 2 such that no new matter has been entered and no new search is required.

Rejections under 35 U.S.C. § 103

Claims 1-10; Shamouilian et al. '958 in view of Heimann et al. '707 or Munshi et al. '030

2. Claims 1 through 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Shamouilian et al.* (U.S. Pat. No. 6,494,958) in view of either *Heimann et al.* (U.S. Pat. No. 6,620,707) or *Munshi et al.* (U.S. Pat. No. 5,654,030).
3. Applicants respectfully traverse this rejection. Applicants respectfully submit that the Examiner has failed to make a *prima facie* case of obviousness. In

¹ Please note that in making these amendments, the paragraph numbering that has been followed is that of the IFW/PALM version, not the XML version published by the Publication Division.

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articulating this rejection, the Examiner has failed to make a *prima facie* case of obviousness. MPEP § 2143 specifically requires the Examiner to meet three criteria in order to make a *prima facie* case of obviousness: (1) show some suggestion or motivation, either in the references themselves or in the knowledge of one of ordinary skill in the art, to modify the reference or to combine reference teachings; (2) articulate some reasonable expectation of success; and (3) show that the combined references teach or suggest all of the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in the applicant's disclosure. *Id.* Furthermore, as the Federal Circuit has held, "to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion, or teaching of the desirability of making the specific combination that was made by the applicant." *In re Kotzab*, 271 F.3d 1365, 1370 (Fed. Cir. 2000). The Examiner "must provide particular findings" supporting a combination of prior art references. *Id.* Indeed, the Federal Circuit has emphasized the need for a "rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references." *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999); see also *In re Fine*, 837 F.2d 1071, 1074-75 (Fed. Cir. 1988).

4. The Examiner's statement that "it would have been obvious to one having ordinary skill in the art at the time of the invention to make the electrode as sintered as an alternative and art recognized equivalent to porous mesh" (i.e., by combining the teaching of *Shamouilian et al.* with either *Heimann et al.* or *Munshi et al.*) is merely conclusory, contrary to the requirements of MPEP § 2143. These statements do not point to any teaching, or even any suggestion, in either of the references that they should be combined as suggested by the Examiner. These statements further do not articulate from the references themselves why any such combination would meet with any reasonable expectation of success, again contrary to MPEP § 2143. Absent such a teaching or suggestion of the combination, one skilled in the art would not have been motivated to combine *Shamouilian et al.* with either *Heimann et al.* or *Munshi et al.* The Examiner's obviousness rejection is therefore improper as non-compliant with MPEP § 2143.
5. Moreover, *Heimann et al.* and *Munshi et al.* are completely non-analogous art with respect to both the instant invention and *Shamouilian et al.* *Heimann et al.* teaches a sensor for determining chemical components of an internal engine exhaust. *Munshi et al.* teaches a cardiac stimulation electrode for a defibrillation unit. No one of skill in the wafer holder arts would think to combine such non-analogous references with *Shamouilian et al.*
6. Furthermore, *Heimann et al.* may be fairly said to teach away from the instant invention. At column 3 lines 18 through 20, *Heimann et al.* state: "for assuring a sufficient current carrying capacity of heating conductor 10, it is necessary to

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keep its porosity as low as possible" (emphasis added). This is in direct contrast with the teaching of the instant invention, which teaches a sintered electrode having intentionally induced porosity to reduce thermal stresses in the electrode (see for example paragraph [0017] of the original specification). As such, the skilled artisan would not have looked to the teaching of *Heimann et al.*

- 7 Moreover, *Munshi et al.* is not sufficiently pertinent to the particular problem faced by Applicant as to reasonably suggest Applicant's claimed invention to those skilled in the art. *Munshi et al.* teach an electrode for use in a defibrillator. In use, such electrodes are sutured to the heart, and experience a highly stable thermal environment. *Munshi et al.*, therefore, show no recognition of the problem faced by the Applicant, namely that of accommodating internal stresses in wafer holder electrodes caused by thermal expansion.
8. Additionally, even if the Examiner's combinations in the Office Action are proper (which Applicant disputes above), they do not teach each of the elements of amended claim 1 (as required by MPEP 2143). In particular, *Shamouilian et al.* do not teach "a layer of electrical circuitry composed of one or more sinter laminae... the circuit layer having porosity in that pores are present therein". As is well known to those of ordinary skill in the art, a "sintered laminae... having porosity" (as recited in claim 1) describes a structure having a three dimensional distribution of pores. In the instant invention, such pores are the result of the powder processing techniques used to fabricate the circuit layer. On the contrary, *Shamouilian et al.* teach an electrode comprising a mesh of electrically conductive wires (column 9, line 50). The "voids or interstices between the wires" referred to by *Shamouilian et al.* (at column 9, line 54) are merely two-dimensional spaces between the conductive wires and do not teach or even suggest a structure as recited in claim 1 having a three dimensional distribution of pores.

Claims 1-10; Niori et al. '246 in view of Heimann et al. '707 or Munshi et al. '030

9. Claims 1 through 10 also stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Niori et al.* (U.S. Pat. No. 6,197,246) in view of either the *Heimann et al.* or *Munshi et al.* patents.
10. The Applicant respectfully traverses these rejections for the same reasons as given above. The arguments made above in sections 3 through 7 apply with equal force to the rejections recited above in section 9. The Applicant, therefore, submits that the Examiner's obviousness rejection is improper as non-compliant with MPEP § 2143.

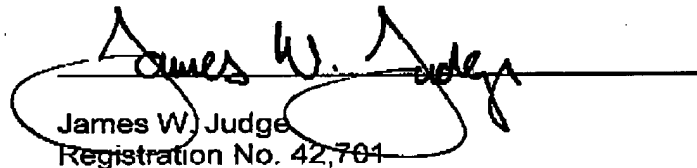
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11. Moreover, *Niori et al.* do not teach "a layer of electrical circuitry composed of one or more sinter laminae... the circuit layer having porosity in that pores are present therein". As is well known to those of ordinary skill in the art (and as stated above in section 8), a "sintered laminae... having porosity" (as recited in claim 1) describes a structure having a three dimensional distribution of pores. In the instant invention, such pores are the result of the powder processing techniques used to fabricate the circuit layer. On the contrary, *Niori et al.* teach an electrode comprising a mesh of electrically conductive wires (column 10, line 57). Such a structure in no way teaches or even suggests a structure as recited in claim 1 having a three dimensional distribution of pores.
12. In view of the foregoing remarks, the Applicant respectfully requests that the Examiner withdraw his obviousness rejections of pending claims 1 through 10. Applicant further submits that independent claims 1 through 10 are allowable. Applicant requests reconsideration and allowance of such claims.

Applicants believe that this application is now in full condition for allowance, which action Applicant earnestly solicits.

Respectfully submitted,

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